Claims:

1 -7 (cancelled)

8. (new) A tube magnetron comprising:

a hollow rotating tube target arrangement of longitudinally extended target plates that are fixed to a target support, wherein the target plates in cross section are arranged adjacent to each other to form a polygon; and

a magnet system, wherein the magnet system provides a magnetic field passing through the tube target arrangement, wherein the magnetic field has in cross section two maxima arranged in the axial longitudinal direction of the tube target arrangement and in the interior thereof.

9. (new) The tube magnetron of claim 8, wherein the width and number of target plates are selected so that an angle ÿ, which is enclosed by two imaginary radial lines each running through adjacent corners of the polygon, is related to an angle ÿ, which is enclosed by two imaginary radial lines running through the magnetic field maxima as $\beta = (n + 0.5)\,\alpha$ wherein n is select to be an integer (n = 0, 1, 2, 3, 4 ...).

10. (new) The tube magnetron of claim 9, wherein n selected to be 1 so that $\beta = 1.5\,\alpha$.

11. (new) The tube magnetron of claim 8 wherein the target plates are cemented or bonded to the target support.

12. (new) The tube magnetron of claim 8 wherein the target plates comprise target material selected from the group of ceramic materials, ceramic-like materials, high melting-point materials and any combination thereof.

13. (new) The tube magnetron of claim 12 wherein the target material comprises one of ITO, zinc oxide, and silicon.

14. (new). The tube magnetron of claim 8 which is further configured so that the tube target rotates at a speed of about 1 revolution s-1 to about 2 revolutions min-1.

15. (new) A tube magnetron for sputtering of target material by a plasma on application of a voltage, comprising:

a hollow rotating tube target arrangement of longitudinally extended target plates that are fixed to a target support; and

a magnet system configured to provide a magnetic field passing through the tube target arrangement,

wherein the target plates in cross section are arranged adjacent to each other to form a polygon, wherein the magnetic field has in cross section two maxima arranged in the axial longitudinal direction of the tube target arrangement, and wherein the tube magnetron is further configured so that in operation equalization of at least one of plasma fluctuations and sputter rate fluctuations is effected by at least one of an applied voltage control and a plasma emission monitor control.